

**PATENT COOPERATION TREATY**  
**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
 (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

|   |  |  |
|---|--|--|
| Applicant's or agent's file reference<br><b>B70078PC</b>  | <b>FOR FURTHER ACTION</b>  |  |
|   |  | See Form PCT/IPEA/416  |
| International application No.<br><b>PCT/EP2004/012726</b>   | International filing date ( <i>day/month/year</i> )<br><b>10.11.2004</b> | Priority date ( <i>day/month/year</i> )<br><b>12.11.2003</b> |
| International Patent Classification (IPC) or national classification and IPC<br><b>C08K3/22, C08K5/00, C08K5/07, C08K5/3492, C08L57/08, C08L27/06</b> |  |  |
| Applicant<br><b>BAERLOCHER GMBH</b>   |  |  |

|  |   |   |                                     |   |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
|--|---|---|-------------------------------------|---|--------------------------|--|--------------------------|---------------------------------------|-------------------------------------|---|--------------------------|------------------------------------|--------------------------|--|--------------------------|--|
| <ol style="list-style-type: none"> <li>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</li> <li>2. This REPORT consists of a total of <u>7</u> sheets, including this cover sheet.</li> <li>3. This report is also accompanied by ANNEXES, comprising:                     <ol style="list-style-type: none"> <li>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <u>11</u> sheets, as follows:                             <table border="0" style="width: 100%;"> <tr> <td style="width: 20px;"><input type="checkbox"/></td> <td style="width: 80px;">sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</td> </tr> </table> </li> <li>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</li> </ol> </li> </ol> | <input type="checkbox"/>  | sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). | <input checked="" type="checkbox"/> | sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <input type="checkbox"/>   | sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). |   |                                     |   |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <input checked="" type="checkbox"/>  | sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.               |   |                                     |   |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <ol style="list-style-type: none"> <li>4. This report contains indications relating to the following items:                     <table border="0" style="width: 100%;"> <tr> <td style="width: 20px;"><input checked="" type="checkbox"/></td> <td>Box No. I Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII Certain observations on the international application</td> </tr> </table> </li> </ol>  | <input checked="" type="checkbox"/>   | Box No. I Basis of the report   | <input type="checkbox"/>            | Box No. II Priority   | <input type="checkbox"/> | Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | <input type="checkbox"/> | Box No. IV Lack of unity of invention | <input checked="" type="checkbox"/> | Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | <input type="checkbox"/> | Box No. VI Certain documents cited | <input type="checkbox"/> | Box No. VII Certain defects in the international application | <input type="checkbox"/> | Box No. VIII Certain observations on the international application |
| <input checked="" type="checkbox"/>  | Box No. I Basis of the report   |   |                                     |   |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <input type="checkbox"/>   | Box No. II Priority   |   |                                     |   |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <input type="checkbox"/>   | Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |   |                                     |   |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <input type="checkbox"/>   | Box No. IV Lack of unity of invention   |   |                                     |   |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <input checked="" type="checkbox"/>  | Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement   |   |                                     |   |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <input type="checkbox"/>   | Box No. VI Certain documents cited  |   |                                     |   |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <input type="checkbox"/>   | Box No. VII Certain defects in the international application  |   |                                     |   |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |
| <input type="checkbox"/>   | Box No. VIII Certain observations on the international application  |   |                                     |   |                          |  |                          |                                       |                                     |   |                          |                                    |                          |  |                          |  |

|   |                                   |
|---|-----------------------------------|
| Date of submission of the demand        | Date of completion of this report |
| Name and mailing address of the IPEA/EP | Authorized officer                |
| Facsimile No.                           | Telephone No.                     |

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/EP2004/012726

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 

This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
 
  - international search (Rule 12.3 and 23.1(b))
  - publication of the international application (Rule 12.4)
  - international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
 

the international application as originally filed/furnished  
 the description:  
 pages 1-37 \_\_\_\_\_ as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 the claims:  
 nos. \_\_\_\_\_ as originally filed/furnished  
 nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19  
 nos.\* 1-28 received by this Authority on 07.04.2005 WITH LETTER OF 07.04.2005  
 nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 the drawings:  
 sheets \_\_\_\_\_ as originally filed/furnished  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3.  The amendments have resulted in the cancellation of:
 

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 

the description, pages \_\_\_\_\_  
 the claims, nos. 6, 24, 28 \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

|                               |                   |
|-------------------------------|-------------------|
| International application No. | PCT/EP2004/012726 |
|-------------------------------|-------------------|

|           |   |
|-----------|---|
| Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
|-----------|---|

## 1. Statement

|                               |        |                               |     |
|-------------------------------|--------|-------------------------------|-----|
| Novelty (N)                   | Claims | <u>12, 13, 20, 22</u>         | YES |
|                               | Claims | <u>1-11, 14-19, 21, 23-28</u> | NO  |
| Inventive step (IS)           | Claims | <u></u>                       | YES |
|                               | Claims | <u>1-28</u>                   | NO  |
| Industrial applicability (IA) | Claims | <u>1-28</u>                   | YES |
|                               | Claims | <u></u>                       | NO  |

## 2. Citations and explanations (Rule 70.7)

1. This report makes reference to the following documents:

D1: DE-A-198 18 441

D2: WO-A-93/25613

D3: DATABASE WPI Section Ch, Week 199343 Derwent Publications Ltd., London, GB; Class A14, AN 1993-339875 & JP-A-05 247300

D4: DE-A-41 34 325

D5: WO-A-02/098964

2. Novelty and inventive step

2.1 Document D1 discloses a stabiliser combination for halogenated thermoplastic resin compositions which contain calcium hydroxide and/or calcium oxide, hydroxyl group-containing isocyanurate and other components such as, *inter alia*,  $\beta$ -diketones and/or their metal salts, hydrotalcites and zinc salts (page 3, lines 47-65; claims). The stabilised resin compositions show good thermostability (DHC value).

In examples A4-A6, as well as B4-B9, stabilised

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/EP2004/012726

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

PVC compositions are described which contain (c) 0.5 phr  $\beta$ -diketone, (a) 0.33-1 phr  $\text{Ca}(\text{OH})_2$ , and (b) 0.3 or 0.4 phr THEIC, as well as hydrotalcite and zinc and calcium salts. This corresponds to about 0.4% by weight  $\beta$ -diketone, 0.4-0.8% by weight  $\text{Ca}(\text{OH})_2$  and 0.25-0.33% by weight THEIC, in relation to the total composition, or 38% by weight  $\beta$ -diketone, up to 38% by weight  $\text{Ca}(\text{OH})_2$  and about 23% by weight THEIC, in relation to the total weight of the stabiliser composition [(a)+(b)+(c)].

The subject matter of claims 6-11, 25 and 29 is thus deprived of novelty by D1.

2.2 D2 relates to stabilised chlorinated resin compositions which contain zinc soap of  $\text{C}_{8-22}$  fatty acids, calcium soap of  $\text{C}_{8-22}$  fatty acids, 0.1-4% by weight calcium complexes of 1,3-diketones, and katoites of formula (I), which may be used mixed with calcium hydroxide in amounts of less than 50% by weight in relation to the katoite (page 4, paragraph 3; examples; claims 1, 7-10). The stabilised resin compositions are characterised by reduced decomposition phenomena and discolouring, as well as a bright initial colour during processing.

Stabiliser mixtures which contain, for 100 parts by weight polymer, 0.1-10 parts by weight optionally surface-modified katoites of formula

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/EP2004/012726

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

(I), 0.2-4 parts by weight zinc soaps, and 0.2-5 parts by weight Ca soaps and/or calcium complexes of 1,3-diketones, are preferred (page 13).

In examples 1, 9 and 10, (a) Ca(OH)<sub>2</sub>-containing katoites are produced and added to a S-PVC to be stabilised in the presence of (c) 0.3 phr β-diketones (0.25 phr calcium acetyl acetonate + 0.05 phr stearoylbenzoylmethane) and (b) 0.2 phr THEIC (page 17, paragraph 1; table 1).

Examples 9 and 10 contain 29% and 27% (b), respectively, in relation to the total weight of the stabiliser composition [(a)+(b)+(c)].

It is pointed out that the disclosure of a reference document is not limited to the claims or to specific embodiments, but rather encompasses the entire reproducible technical teaching described in the document. When assessing novelty, different passages of a document may be combined, insofar as a person skilled in the art would not refrain from considering such a combination for some reason.

D2 likewise describes a stabiliser composition which contains 0.2 phr β-diketone component (c) (page 13). Consequently, the combination of examples 1, 9 and 10 with this general teaching is prejudicial to the novelty of the subject matter of claim 1.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/EP2004/012726**Box No. V** **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Consequently, the subject matter of claims 1-11, 14-19, 21 and 23-28 cannot be considered novel over D2.

2.3 As a result, the present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1-11, 14-19, 21 and 23-29 is not novel (PCT Article 33(2)).

2.4 It is already known that the thermal stability and colour fastness of halogenated thermoplastic resin compositions can be improved by the use of stabiliser mixtures which contain  $\text{Ca}(\text{OH})_2$  and/or  $\text{CaO}$ , an hydroxyl group-containing isocyanurate and less than 0.3 phr or 2.369% by weight  $\beta$ -diketone or its salt. Consequently, the concept underlying the present application is suggested by the prior art.

As a result, the subject matter of claims 1-28 is not considered to involve an inventive step (PCT Article 33(3)).

**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

**BOX I****Basis of the report**

1. The amendments submitted with the letter of 7 April 2005 introduce substantive matter which goes beyond the original disclosure in the international application as filed, thereby contravening PCT Article 34(2) (b). This concerns the following amendments:

In claims 6, 24, 26 and 28, the proportion by weight of component (c) was changed from "less than 2.369% by weight" to "the proportion by weight of component (c) ranges from 0.01 to 1.728% by weight in relation to the total weight of the stabiliser composition". No support can be found for the upper limit ("to 1.728% by weight") of this range (see the description, pages 12 and 13, as well as the examples).

Pursuant to PCT Rule 70.2(c), these amendments were not considered when the international examination report was established.